SPEC® CFP2006 Result
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Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2667)

$SPECfp^{®}2006 =$ 83.6
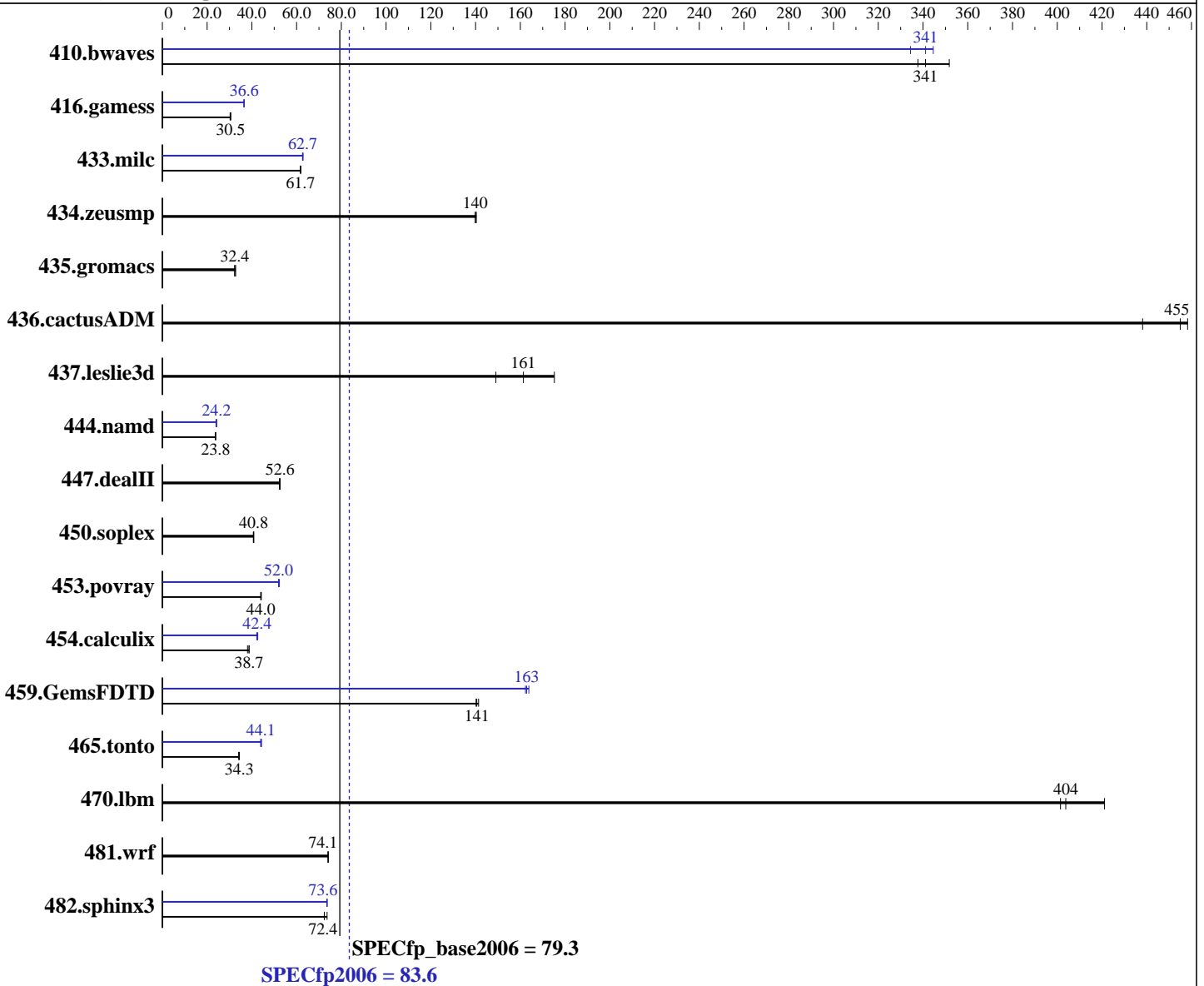
$SPECfp\_base2006 =$ 79.3

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011

Benchmark	Value (blue)	Value (base)
410.bwaves	341	341
416.gamess	36.6	30.5
433.milc	62.7	61.7
434.zeusmp		140
435.gromacs		32.4
436.cactusADM		455
437.leslie3d		161
444.namd	24.2	23.8
447.dealII		52.6
450.soplex		40.8
453.povray	52.0	44.0
454.calculix	42.4	38.7
459.GemsFDTD	163	141
465.tonto	44.1	34.3
470.lbm		404
481.wrf		74.1
482.sphinx3	73.6	72.4

SPECfp_base2006 = 79.3

SPECfp2006 = 83.6

Hardware

CPU Name: Intel Xeon E5-2667

CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz

CPU MHz: 2900

FPU: Integrated

CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core

CPU(s) orderable: 1,2 chips

Primary Cache: 32 KB I + 32 KB D on chip per core

Secondary Cache: 256 KB I+D on chip per core

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server Release 6.2, Kernel 2.6.32-220.el6.x86_64

Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux

Auto Parallel: Yes

File System: ext3

System State: Run level 3 (multi-user)

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L3 Cache:	15 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	256 GB (16 x 16 GB 1Rx4 PC3-12800R-11, ECC)	Other Software:	None
Disk Subsystem:	1 x 2 TB SATA II, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	38.6	352	40.2	338	**39.8**	**341**	39.4	345	40.6	334	**39.8**	**341**
416.gamess	**642**	**30.5**	647	30.3	641	30.6	537	36.4	**536**	**36.6**	536	36.6
433.milc	**149**	**61.7**	148	61.9	149	61.7	**146**	**62.7**	147	62.6	146	62.9
434.zeusmp	65.0	140	**65.0**	**140**	64.8	140	65.0	140	**65.0**	**140**	64.8	140
435.gromacs	221	32.3	**221**	**32.4**	218	32.8	221	32.3	**221**	**32.4**	218	32.8
436.cactusADM	**26.3**	**455**	27.3	438	26.1	458	**26.3**	**455**	27.3	438	26.1	458
437.leslie3d	53.6	175	**58.2**	**161**	63.1	149	53.6	175	**58.2**	**161**	63.1	149
444.namd	337	23.8	338	23.7	**337**	**23.8**	**331**	**24.2**	331	24.2	335	24.0
447.dealII	218	52.6	**218**	**52.6**	219	52.3	218	52.6	**218**	**52.6**	219	52.3
450.soplex	**204**	**40.8**	204	40.8	205	40.7	**204**	**40.8**	204	40.8	205	40.7
453.povray	**121**	**44.0**	121	44.0	120	44.2	102	52.3	102	52.0	**102**	**52.0**
454.calculix	217	38.1	**213**	**38.7**	213	38.7	**194**	**42.4**	193	42.7	196	42.2
459.GemsFDTD	75.7	140	75.1	141	**75.5**	**141**	65.4	162	**65.2**	**163**	64.8	164
465.tonto	286	34.4	289	34.1	**287**	**34.3**	222	44.3	224	44.0	**223**	**44.1**
470.lbm	32.6	421	**34.0**	**404**	34.2	401	32.6	421	**34.0**	**404**	34.2	401
481.wrf	151	74.0	**151**	**74.1**	151	74.1	151	74.0	**151**	**74.1**	151	74.1
482.sphinx3	**269**	**72.4**	269	72.4	265	73.6	265	73.6	**265**	**73.6**	265	73.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
    Stack size set to unlimited using "ulimit -s unlimited"
```

General Notes

```
    Environment variables set by runspec before the start of the run:
    KMP_AFFINITY = "granularity=fine,scatter"
    LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
    OMP_NUM_THREADS = "12"

    Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
    memory using RHEL5.5
    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

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Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Base Portability Flags

```
    410.bwaves: -DSPEC_CPU_LP64
    416.gamess: -DSPEC_CPU_LP64
      433.milc: -DSPEC_CPU_LP64
    434.zeusmp: -DSPEC_CPU_LP64
   435.gromacs: -DSPEC_CPU_LP64 -nofor_main
 436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
   437.leslie3d: -DSPEC_CPU_LP64
     444.namd: -DSPEC_CPU_LP64
     447.dealII: -DSPEC_CPU_LP64
    450.soplex: -DSPEC_CPU_LP64
    453.povray: -DSPEC_CPU_LP64
   454.calculix: -DSPEC_CPU_LP64 -nofor_main
  459.GemsFDTD: -DSPEC_CPU_LP64
     465.tonto: -DSPEC_CPU_LP64
      470.lbm: -DSPEC_CPU_LP64
       481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
    482.sphinx3: -DSPEC_CPU_LP64
```

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

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Peak Compiler Invocation

C benchmarks:
        icc   -m64

C++ benchmarks:
        icpc   -m64

Fortran benchmarks:
        ifort -m64

Benchmarks using both Fortran and C:
        icc   -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

        433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
                -ansi-alias

        470.lbm: basepeak = yes

        482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
                -parallel

C++ benchmarks:

        444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
                -auto-ilp32

        447.dealII: basepeak = yes

        450.soplex: basepeak = yes

        453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

        410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
                -static

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Peak Optimization Flags (Continued)

```
    416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
                -inline-level=0 -scalar-rep- -static

     434.zeusmp: basepeak = yes

    437.leslie3d: basepeak = yes

  459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
                -inline-level=0 -opt-prefetch -parallel

      465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc
                -opt-malloc-options=3 -auto -unroll4
```

Benchmarks using both Fortran and C:

```
    435.gromacs: basepeak = yes

  436.cactusADM: basepeak = yes

    454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

        481.wrf: basepeak = yes
```

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

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You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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